Update on Northeast Mercury Inventory

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A Decade of Work 1993-2003

- June 15, 1993 progress memo stated that EPA's Report expected to be submitted to Congress in November 1994
- Dec. 13, 1993 NESCAUM Workshop on Mercury
    - Feature: Joann Held reported on NJ Task Force on Mercury Emissions Standard Setting for MWIs
- May 25, 1994 "Symposium on Mercury Contamination in the Northeast"
    - Support for regional strategy to address atmospheric releases into the environment
- EPA supports refinement of Hg inventory for the Northeast states and modeling the deposition in the region using new inventory ($50K+)
    - NEWMOA and NEIWPCC would evaluate innovative technologies and fish monitoring programs
    - Canadians invited to work with us
- Release of EPA's report delayed until December 1997
- Draft NE/ECP Report was drafted and finalized in February 1998
- NESCAUM provide support for the Action Plan via NEG-ECP Mercury Task Force 1998-2003

Uses of Mercury Inventory

- EPA
  - As part of the review of EPA's 1999 National Toxics Inventory for the states for submittal by March 1, 2003 ("voluntary")
  - Regional TMDL for mercury requires an updated inventory
  - Support of USEPA and related tri-national modeling efforts (IJC, CEC)
- Northeast States
  - To determine if they have reached their state or regional targets and goals, including 50% reduction goal in NEG/ECP Mercury Action Plan
  - Support source deposition modeling, source apportionment studies, and other analyses currently being conducted
- Northeastern Ecosystem Research Cooperative
  - Using fish database from 1998 study to consolidate the fish Hg databases and most importantly standardize those data. For example, they are planning to make each fish Hg level an equivalent to a 10-15 cm Yellow Perch and an equivalent to a 14 inch bass (USDA grant)
  - Paper for Ecotoxicology

2002-2003 Mercury Inventory

Two phases

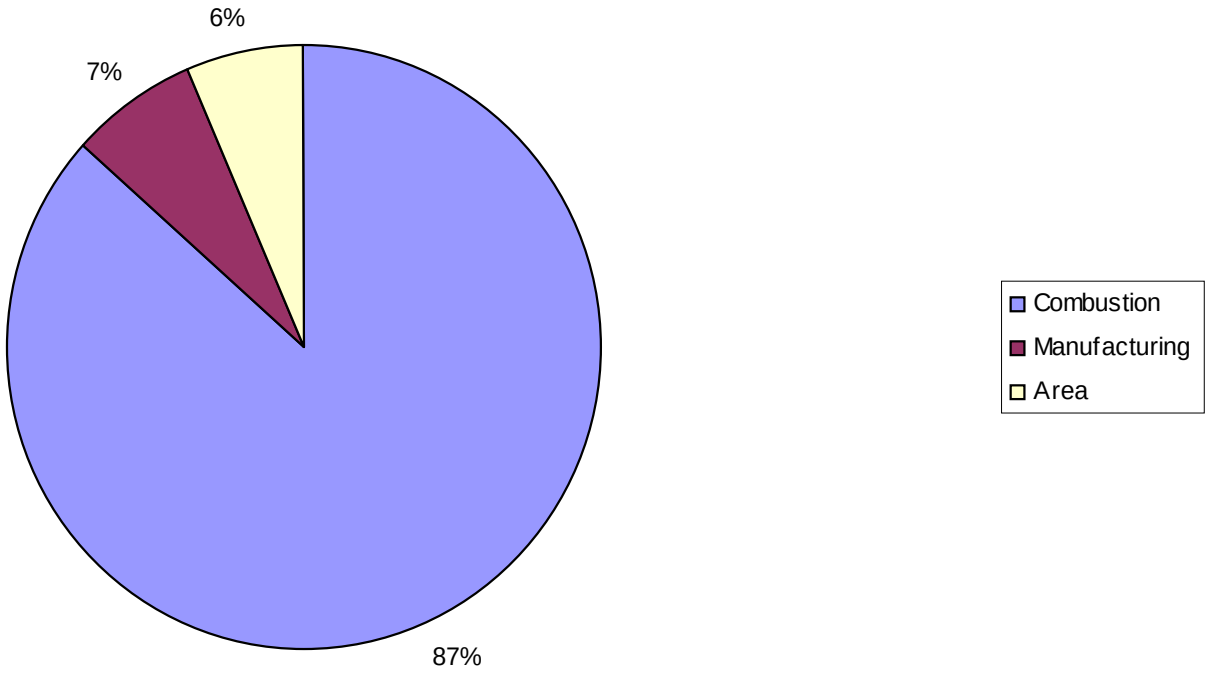
- Phase 1 – provide a limited updated inventory for NEG-ECP on specific sources for August 2002 using 1998 baseline. Sources of interest are primarily incinerators because of federal control requirements. Also interested in new controls, fuel switching or closure of major sources such as power plants and chlor-alkali facility.

- Phase 2 – establish new baseline based on more recent emission factors, and adding new sources that were not included in the 1998 inventory.

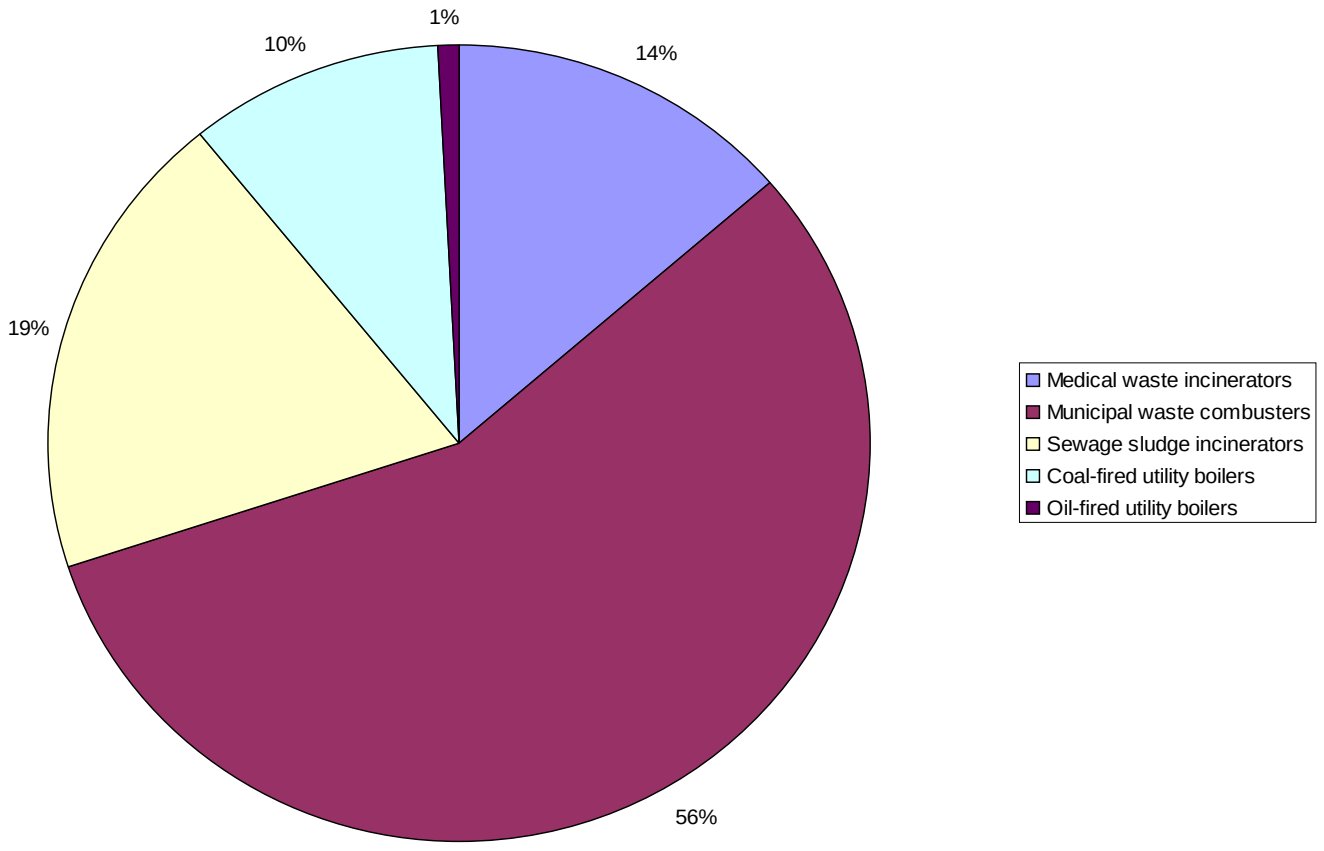
Potential new sources of anthropogenic emissions of mercury identified by NJDEP

- Petroleum refiners
- Steel and iron manufacturing – estimated as the largest source in NJ (over 800 lbs/yr)
- Laboratories
- Gasoline, diesel, gasoline, jet fuel, heating fuel
- Hazardous waste incinerators
- Thermal treatment of soils
- Landfills
- Wood combustion
- Aluminum scrap processing
- Religious and ceremonial use
- Volatilization of old painted surfaces
- Sludge application
- Point source discharges to water

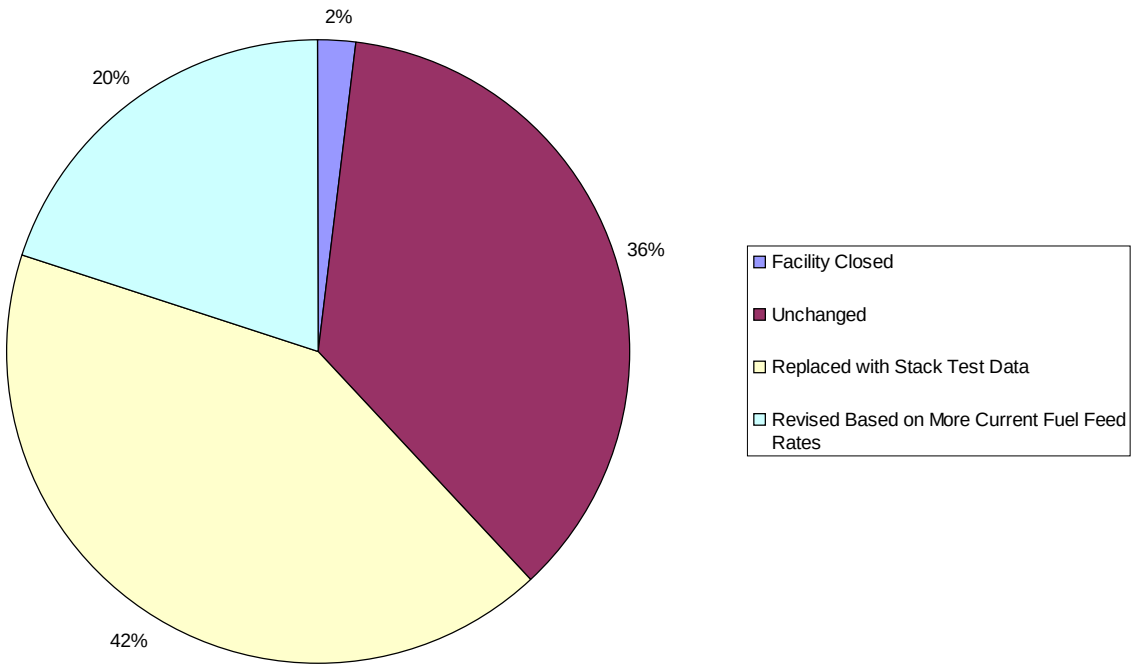
Northeast states inventory



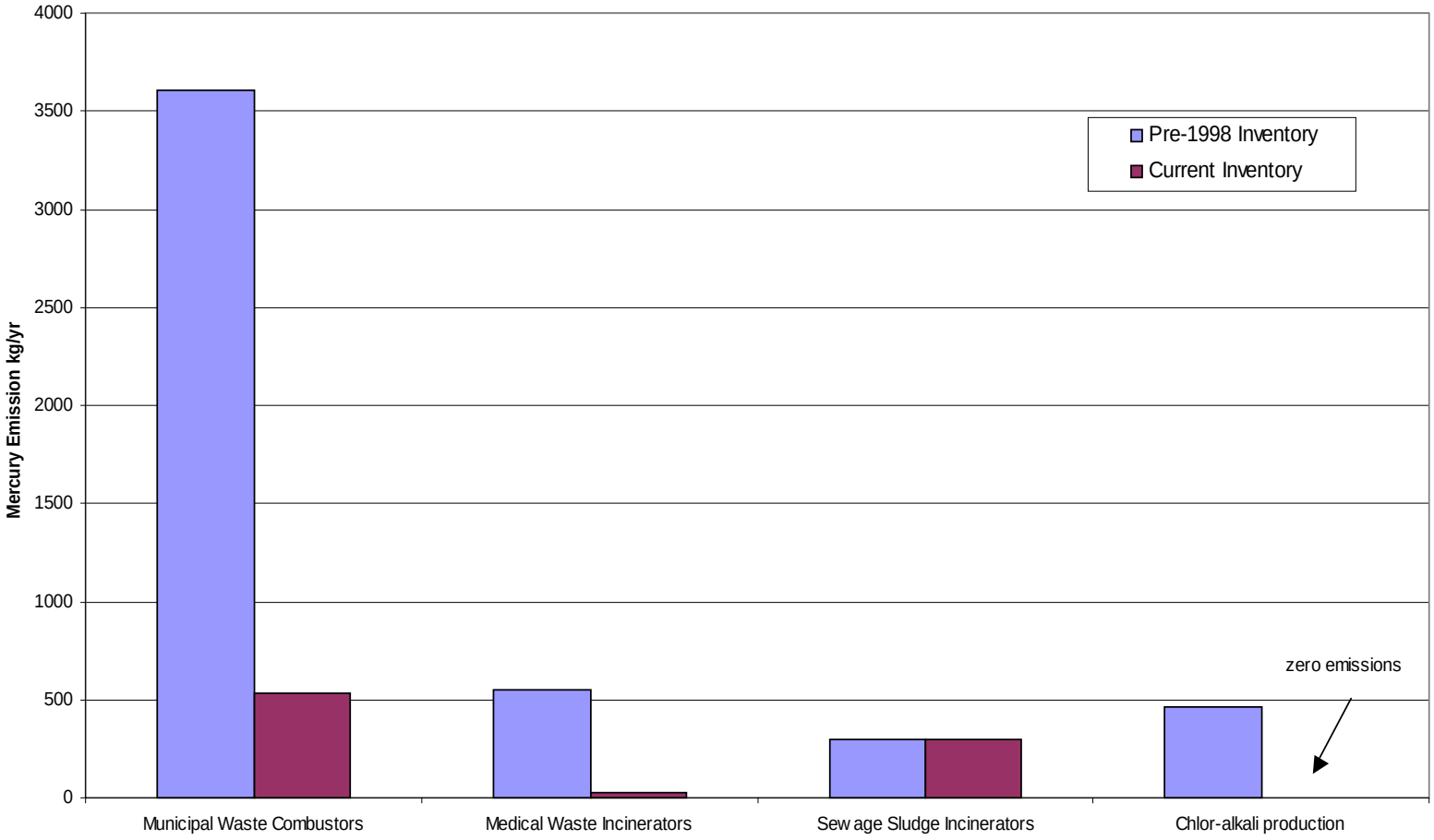
Combustion sources



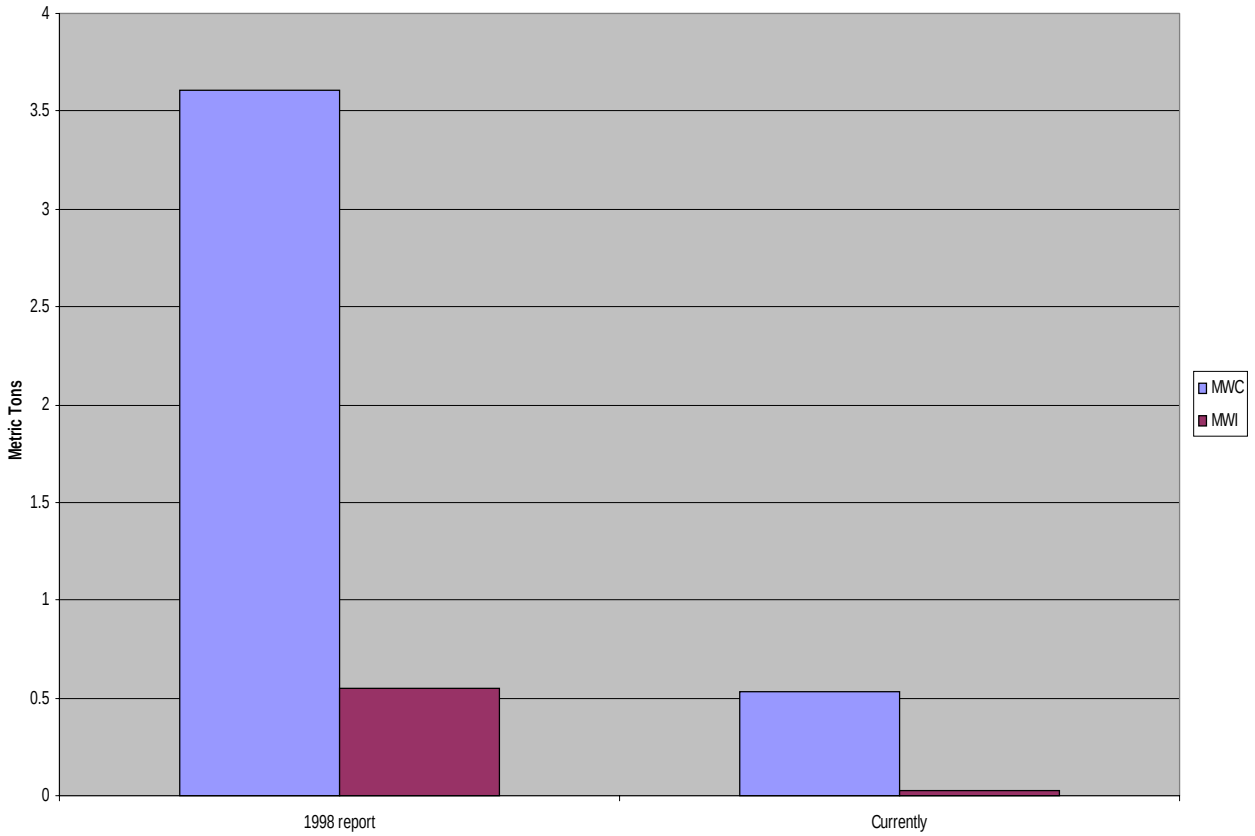
Changes from EPA's inventory



Revised Inventory for NEG-ECP



Incinerators



Hg Inventory by State

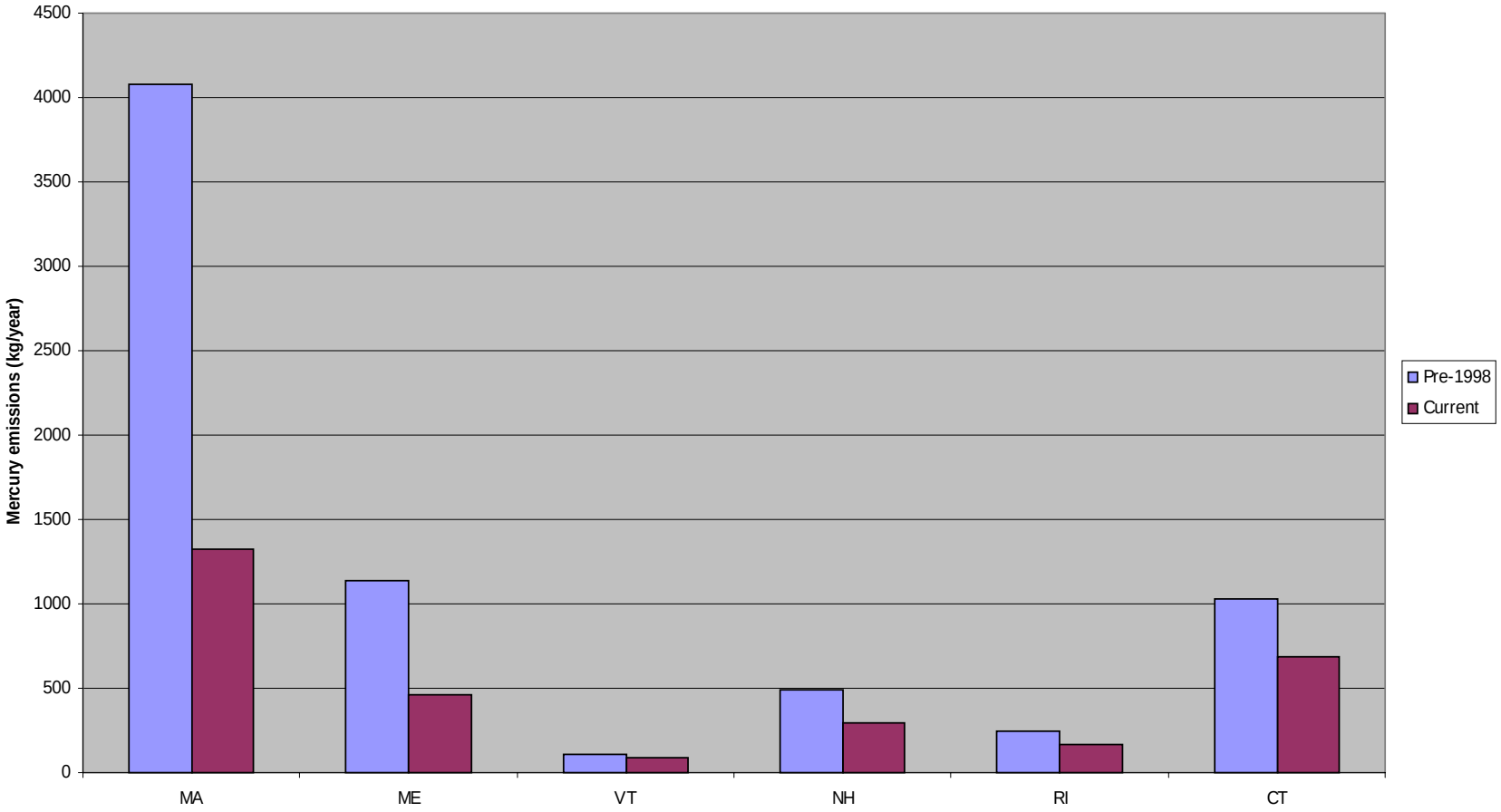


Figure VI–2
Annual Hg (O) Emissions
All U.S. Inventory Sources
(kg/yr)

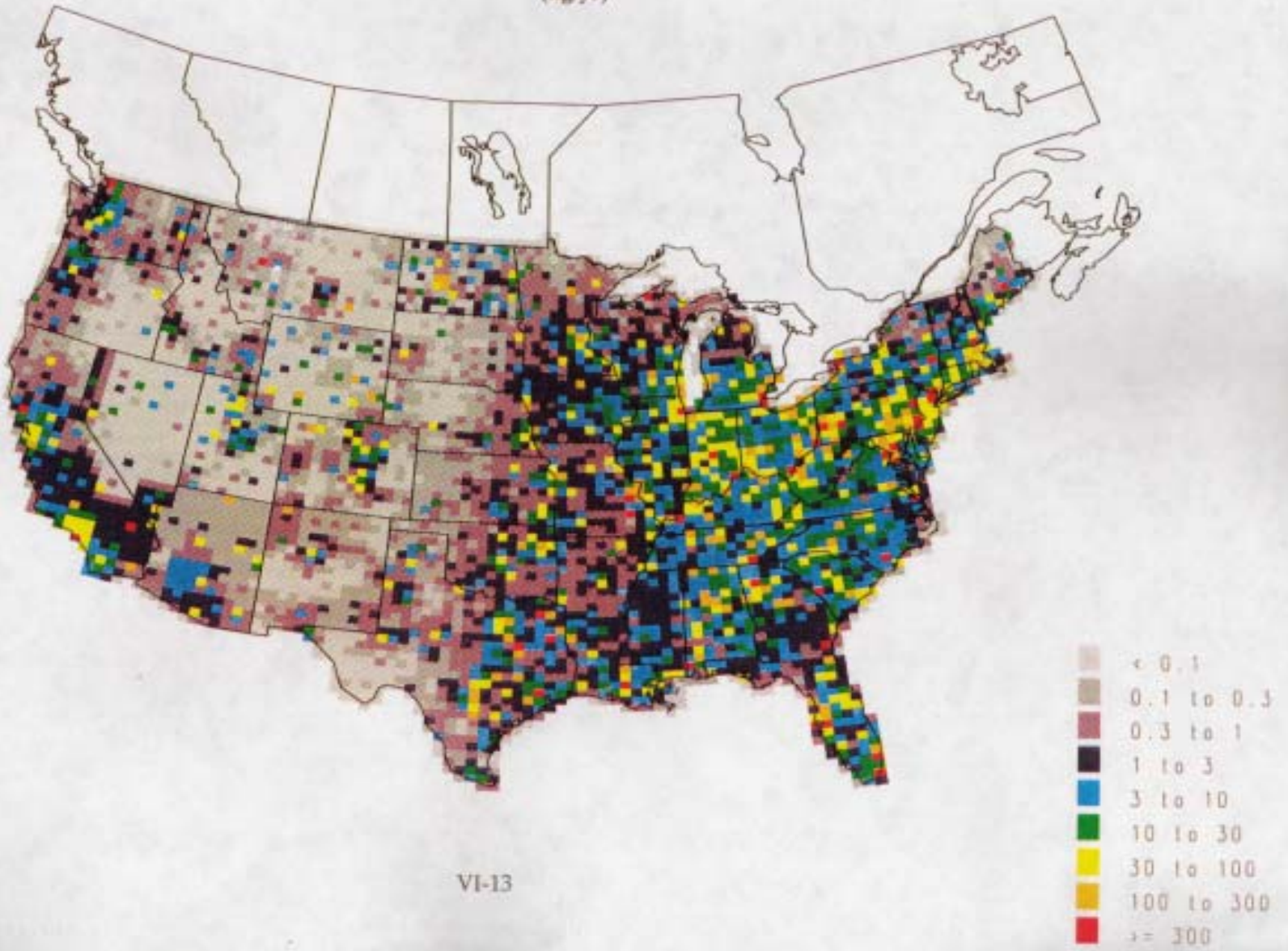


Figure VI–5
Annual Wet and Dry Hg Deposition
All U.S. Inventory Sources
($\mu g/m^2$)

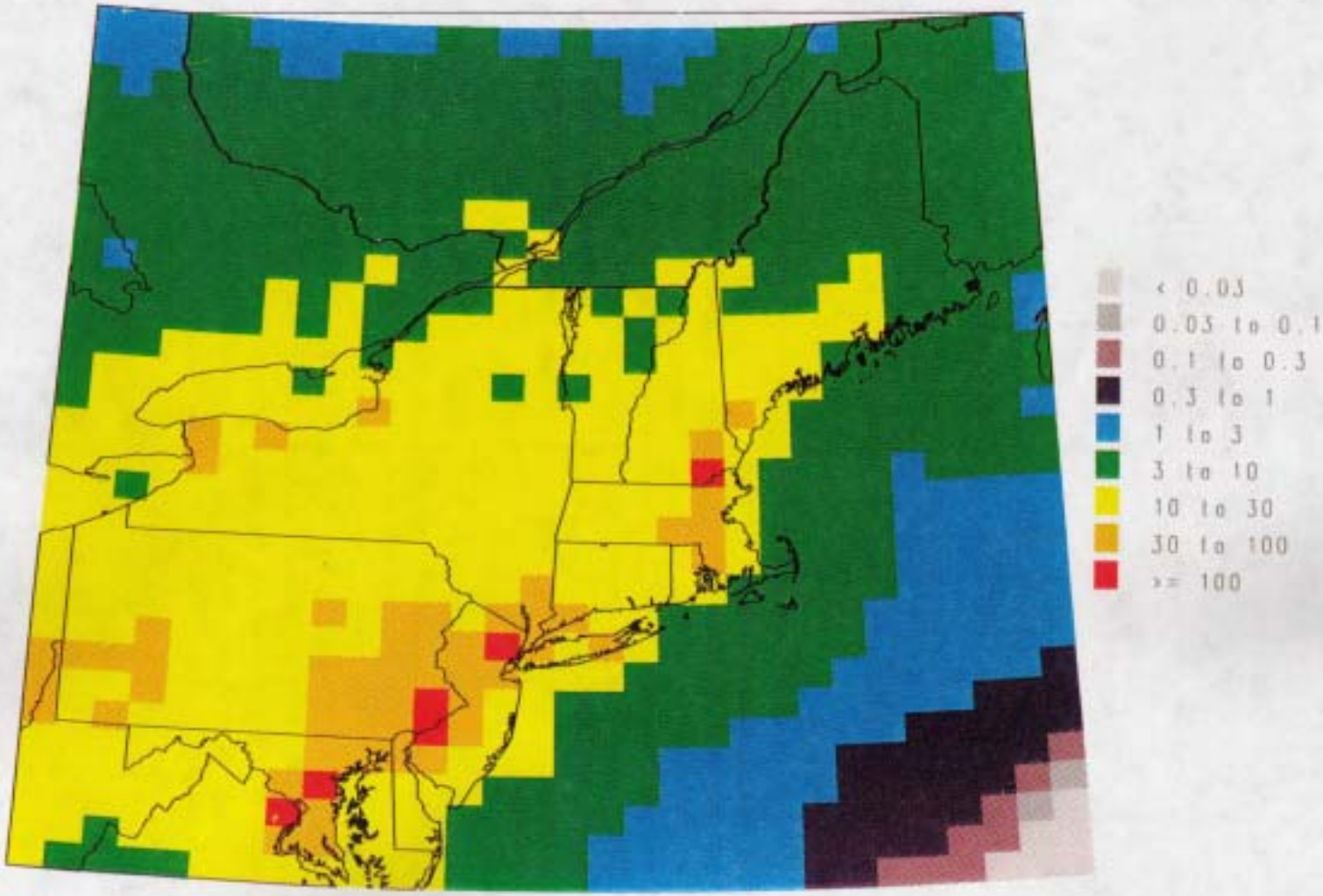


Figure VI–8
Annual Hg Deposition
Global Reservoir
(μg/m²)

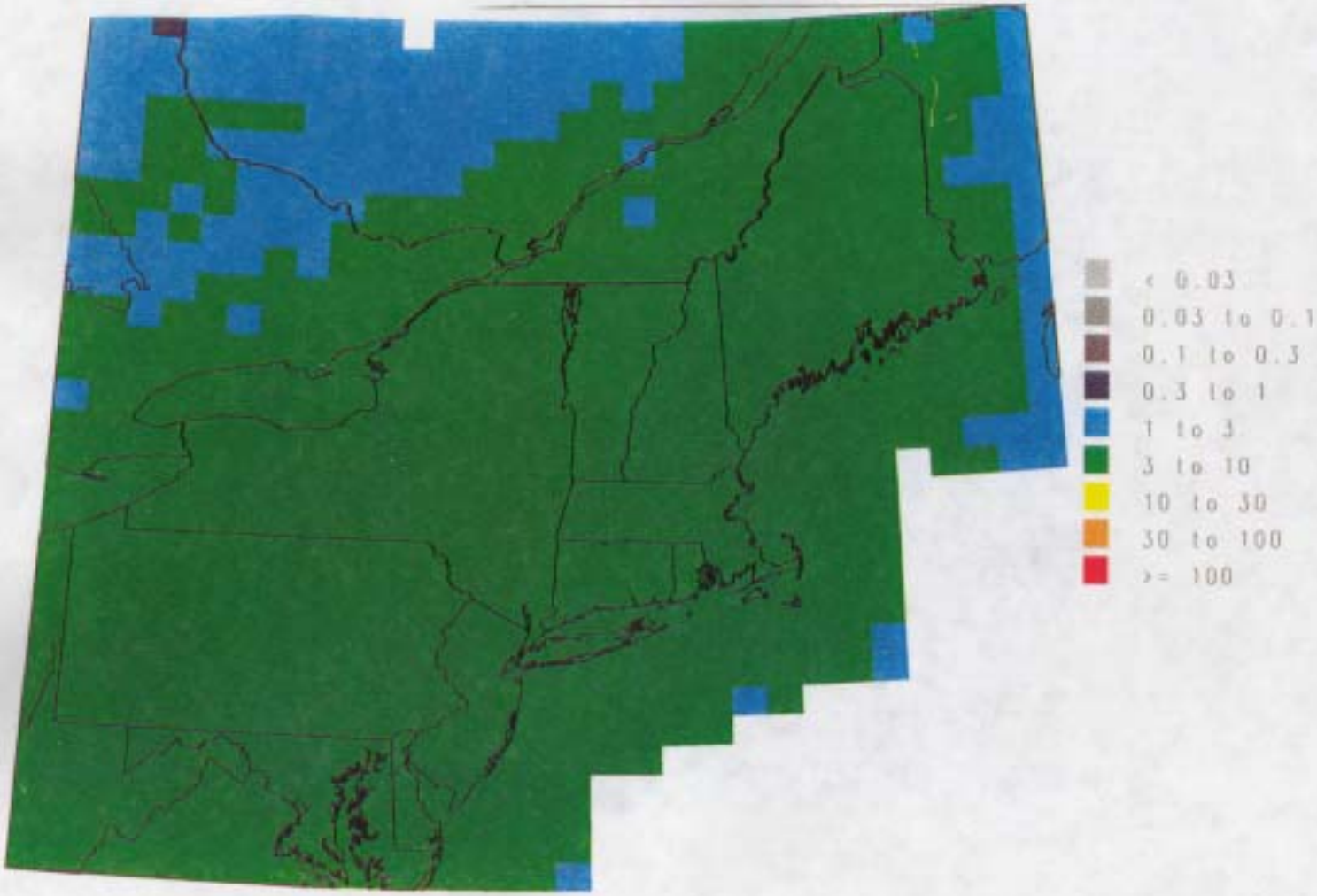
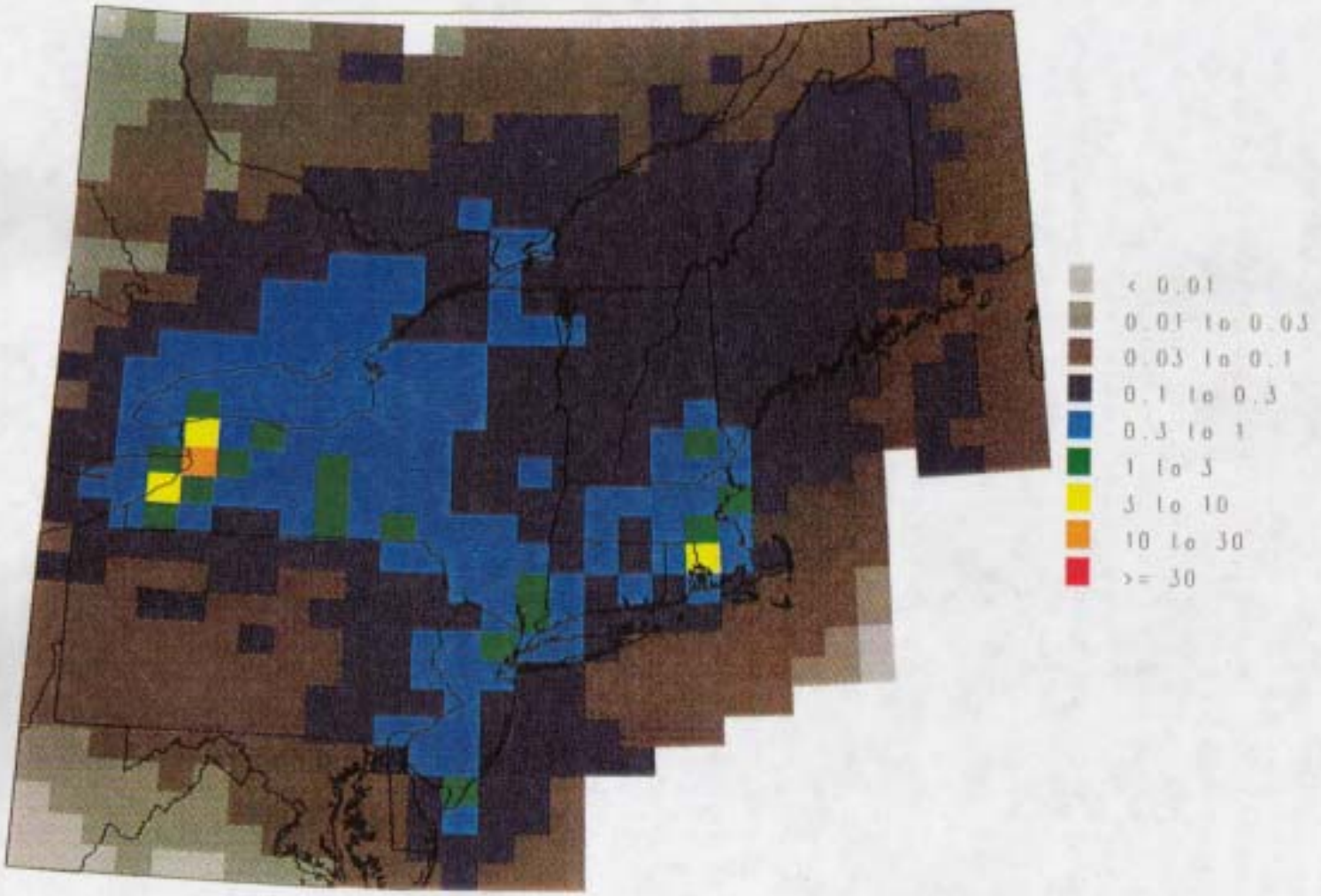
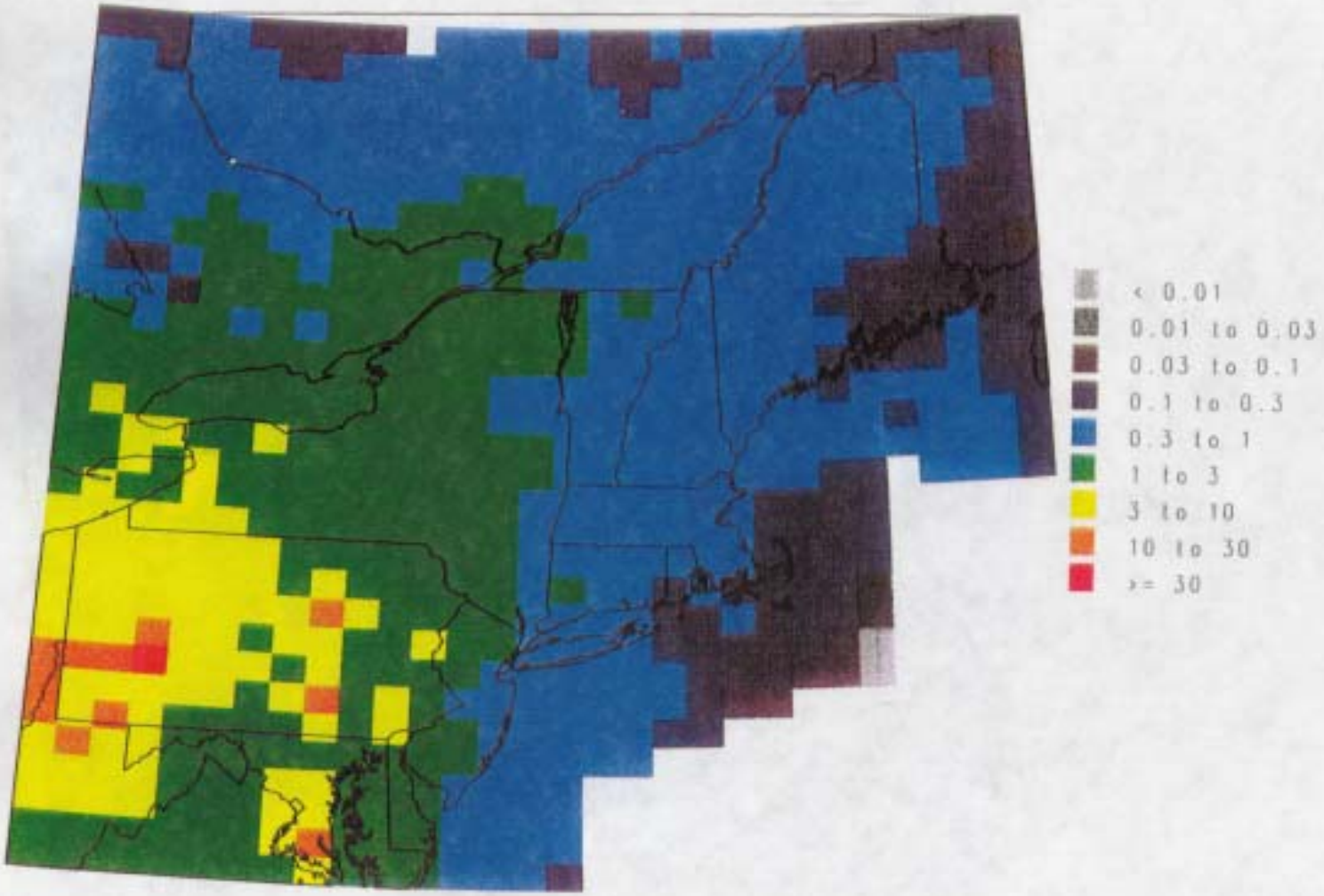


Figure VI–10
Annual Wet Hg Deposition
In-Region Utility Boilers
($\mu g/m^2$)



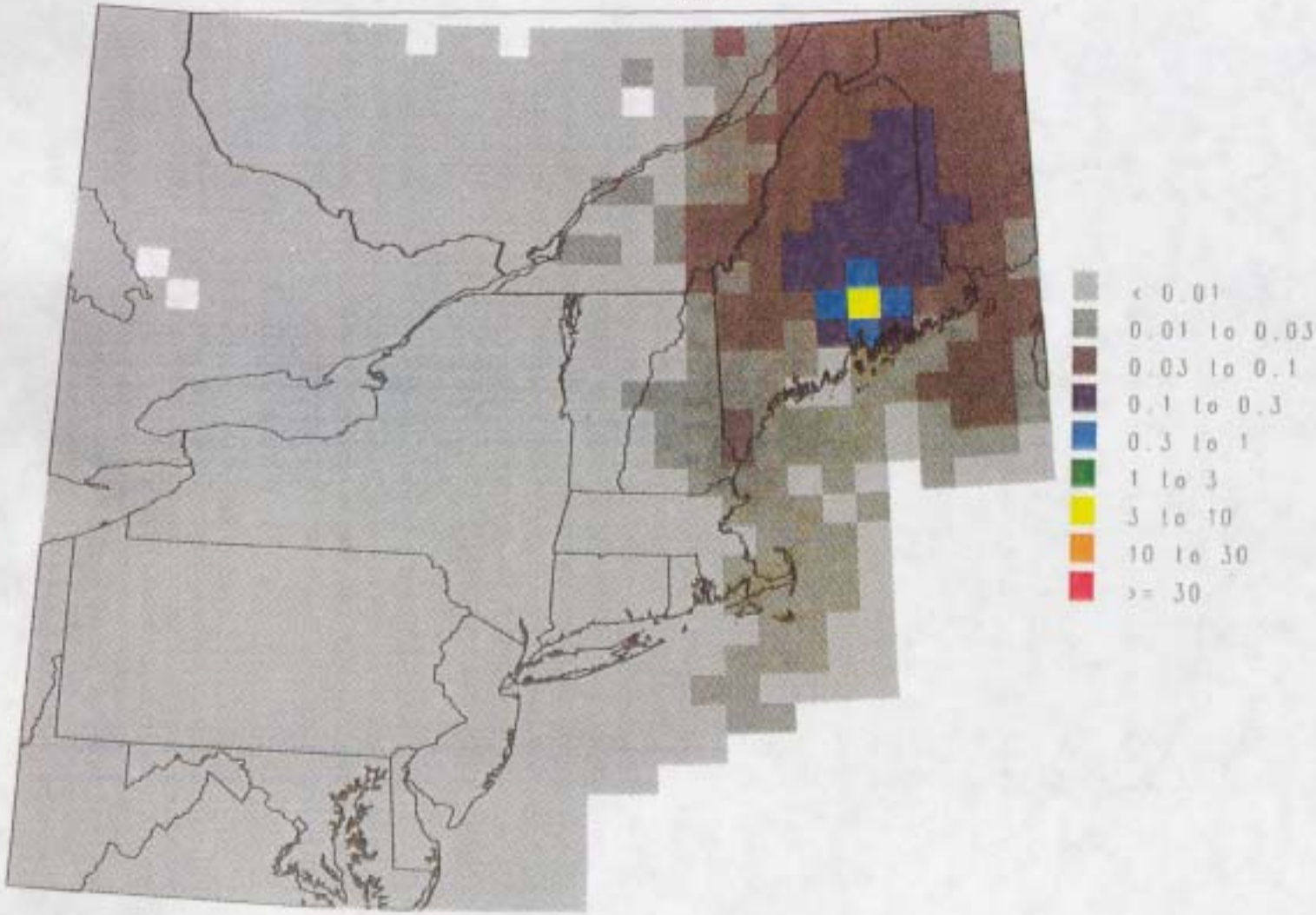
Note: Because only one source category is illustrated in this figure, the scale differs from the previous maps presented in this chapter.

Figure VI–11
Annual Wet Hg Deposition
Out-of-Region U.S. Utility Boilers
($\mu g/m^2$)



Note: Because only one source category is illustrated in this figure, the scale differs from the previous maps presented in this chapter.

Figure VI–13
Annual Wet Hg Deposition
Chlor-Alkali Facility
($\mu g/m^2$)



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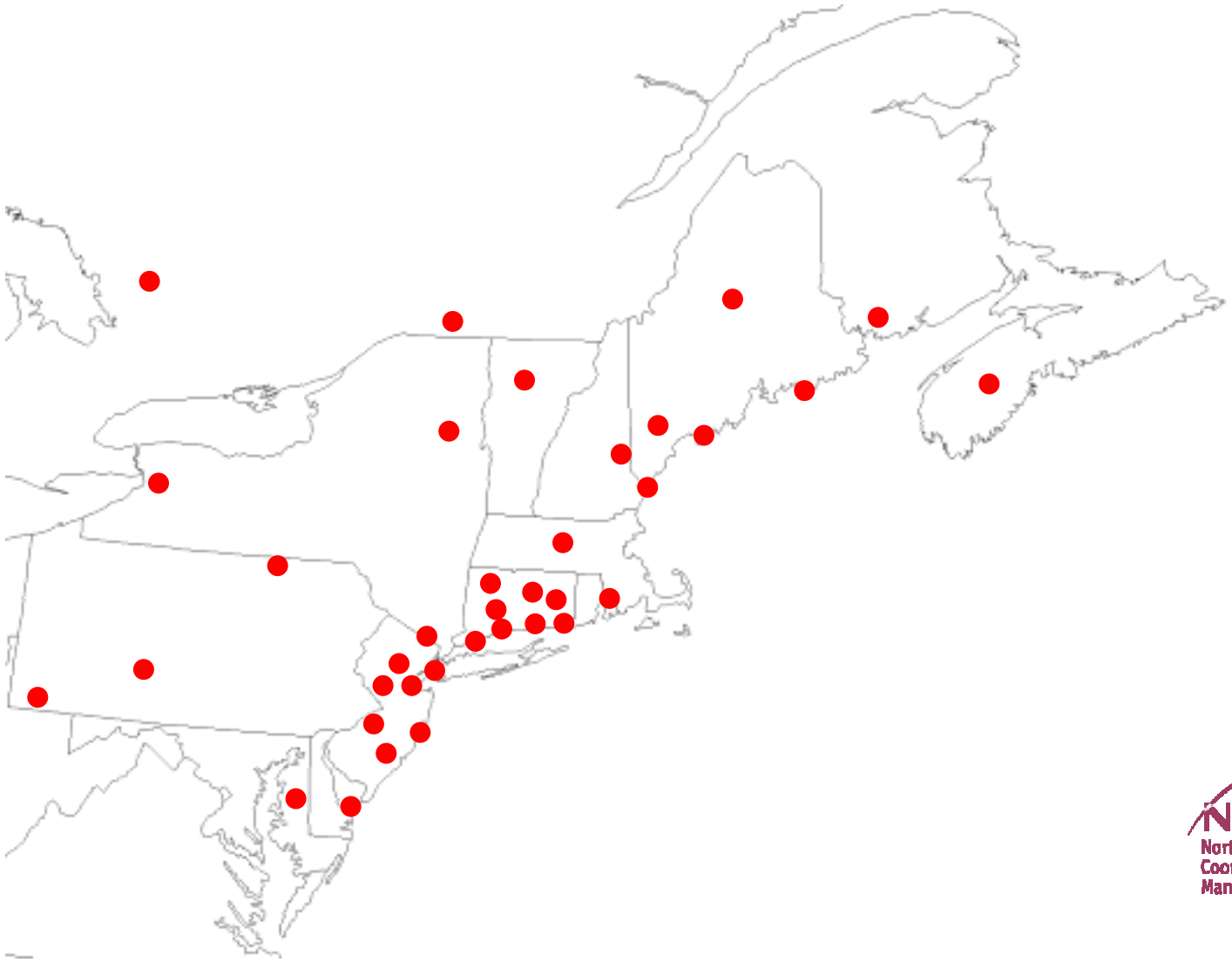
Sites With One or More Years of Wet Mercury Deposition Data



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